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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,822	02/25/2005	Kenichi Nagayama	US01-05003PCT	9165

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EXAMINER

SANTIAGO, MARICELI

ART UNIT	PAPER NUMBER
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2879

MAIL DATE	DELIVERY MODE
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08/14/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/525,822

Applicant(s)

NAGAYAMA ET AL.

Examiner

Mariceli Santiago

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-15, 17-29 and 31-35 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 13-15, 17-29, 31-35 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date ____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Applicant is advised that the Notice of Allowance mailed May 28, 2008 is vacated. If the issue fee has already been paid, applicant may request a refund or request that the fee be credited to a deposit account. However, applicant may wait until the application is either found allowable or held abandoned. If allowed, upon receipt of a new Notice of Allowance, applicant may request that the previously submitted issue fee be applied. If abandoned, applicant may request refund or credit to a specified Deposit Account.

Prosecution on the merits of this application is reopened on claims considered unpatentable for the reasons indicated below.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 26 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for conductive polymer that is doped with an acid, does not reasonably provide enablement for the claimed conductive polymer taking a high resistance by thermal decomposition when is temperature is increase as required in base claim 13. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make/use the invention commensurate in scope with these claims.

Independent base claim 13 requires a leak prevention layer polymer taking a high resistance by thermal decomposition which can be obtained by use of a TCNQ organic semiconductor material. In claim 26, the leak prevention layer is made of conductive polymer

doped with an acid, although it takes a high resistance when temperature is increase, is does not do so by thermal decomposition. Thus, the specification fails to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make/use the invention commensurate in scope with these claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 13-15, 17-25, 27-29 and 31-35 are rejected under 35 U.S.C. 102(a) as being anticipated by Tanaka et al. (US 2002/0190664).

Regarding claim 13, Tanaka discloses an organic EL element comprising an anode (11), a cathode (14) and a light-emitting organic EL layer (13) sandwiched between said anode and said cathode, wherein said organic EL layer comprises a leak prevention layer (12) that takes on a high resistance by thermal decomposition when its temperature is increased (§¶[0042], TCNQ is used as the leak prevention layer, and thermal decomposition is a by-process of the material used).

Regarding claim 14, Tanaka discloses an organic EL element wherein said leak prevention layer has hole transport abilities, and transports holes from the anode side to the cathode side (inherent properties of TCNQ when adjacent to the anode).

Regarding claim 15, Tanaka discloses an organic EL element wherein said leak prevention layer has electron transport abilities, and transports electrons from said cathode side to said anode side (inherent properties of TCNQ when adjacent to the cathode).

Regarding claims 17 and 18, Tanaka discloses an organic EL element wherein said leak prevention layer is arranged in contact with said anode (Fig. 2).

Regarding claims 19 and 20, Tanaka discloses an organic EL element wherein said leak prevention layer (52) is arranged in contact with said cathode (Fig. 5).

Regarding claims 21-23, 28, 29, 31 and 32, Tanaka discloses an organic EL element wherein said leak prevention layer takes on a high resistance at temperatures of 200 to 300°C (inherent properties of TCNQ).

Regarding claim 24, Tanaka discloses an organic EL element wherein, when taking on a high resistance, the specific resistance of said leak prevention layer increases at least by a factor of 10 (inherent properties of TCNQ).

Regarding claim 25, Tanaka discloses an organic EL element wherein, when taking on a high resistance, the specific resistance of said leak prevention layer becomes at least $10^{11} \Omega\text{cm}$ (inherent properties of TCNQ).

Regarding claim 27, the claims are directed to the method of manufacturing the leak prevention layer, in view of an absent of a showing that the method imparts distinctive structural characteristics to the final product, the limitations directed to the method of manufacturing are not germane to the issue of patentability of the device.

Regarding claim 33, Tanaka discloses an organic EL element wherein said leak prevention layer comprises an organic semiconductor ($\text{¶}[0042]$, TCNQ).

Regarding claim 34, Tanaka discloses an organic EL element wherein said leak prevention layer comprises a TCNQ (7,7,8,8-tetracyanoquinomethane) complex ($\text{¶}[0042]$).

Regarding claim 35, Tanaka discloses an organic EL element comprising an anode (11); a cathode (14); and a light-emitting organic EL layer (13) sandwiched between said anode and said cathode, wherein said organic EL layer comprises a leak prevention layer (12) comprising

an organic semiconductor (¶[0042], TCNQ) having a resistance that increases as the temperature of said leak prevention layer increases.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mariceli Santiago whose telephone number is (571) 272-2464. The examiner can normally be reached on Monday-Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Art Unit: 2879

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Mariceli Santiago/

Primary Examiner, Art Unit 2879